

- Changes in light incidence and water clarity due to increased sedimentation and vegetation removal.
- Changes in water temperature due to vegetation removal.
- Increased nutrient loading during construction via runoff from exposed areas.
- Increased concentration of toxic compounds from highway runoff, construction, toxic spills, and increased vehicular use.

Temporary construction impacts due to erosion and sedimentation will be minimized through implementation of a stringent erosion control schedule and use of best management practices. The contractor will be required to follow contract specifications pertaining to erosion control measures (as outlined in 23 CFR 650, Subpart B and Article 107-13) entitled, *Control of Erosion, Siltation, and Pollution* (NCDOT, Standard Specifications for Roads and Structures¹⁶). These measures include:

- Use of dikes, berms, silt basins, and other containment measures to control runoff during construction. Regular maintenance and inspection of these structures to ensure effectiveness.
- Elimination of construction staging areas in floodplains or adjacent to streams and tributaries to help reduce the potential for petroleum contamination or discharges of other hazardous materials into receiving waters.
- Rapid reseeding of disturbed sites to help alleviate sediment loadings and reduce runoff. Partial mitigation of increased runoff from new highway surfaces by providing grassed road shoulders and limited use of ditching.
- Careful management and use of herbicides, pesticides, de-icing compounds, or other chemical constituents to minimize potential negative impacts on water quality. Roadside maintenance crews are well versed in the use of these chemicals.
- Avoidance of direct discharges into streams whenever feasible. Filtering runoff effluent through roadside vegetation in order to remove contaminants and to minimize runoff velocities.

Both long and short-term water quality impacts can result from highway construction projects.